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De waardering van niet genoteerde aandelen. Theorie en cases

Holterman, Wilhelmus Gerardus Maria

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Summary

The valuation of companies is a subject that enjoys considerable interest, as is evidenced by the ever increasing volume of both academic and practical articles. This dissertation addresses a category of companies that, with respect to valuation, have not been the object of much academic research: unquoted companies. This study consists of two parts: a theoretical analysis and empirical research, based on six real-life case studies. All cases involve situations in which experts value companies in the face of a decision to buy or sell shares. Three cases involve an acquisition; the other three cases involve a situation where shares have to be valued in the face of a restriction on the transferability of those shares. Dutch company law requires closed companies ("besloten vennootschappen") to have such a restriction ("blokkeringsregeling"). The law also provides for an expert valuation in case of a dispute.

The goals of this dissertation can be summarized as follows:

1. An inquiry as to whether the economic concept of value that has been developed and modelled in financial economics may be applied to the valuation of unquoted companies.
2. A description and explanation of value concepts, valuation methods and related procedures that are used in practice to value unquoted shares.

The theoretical part begins with an analysis of the applicability of the insights of financial economics in the valuation of unquoted shares. Chapter 2 summarizes some major concepts of financial economic theory. According to this theory, value is a present value. The value of shares is equal to the present value of future dividends and realized capital gains and can be determined using the discounted cash flow method.

The insights of financial economics cannot be applied to the valuation of unquoted shares without qualifications. In modern financial economics value is modelled under the assumptions of perfect and efficient markets. These ideal-world markets are an approximation of organized real-world stock exchanges. There are however major differences between shares traded on organized exchanges and unquoted shares. Marked differences are the lack of marketability of unquoted shares and the degree of control that shareholders can exercise. There are also differences in size and in legal form (quoted companies being open corporations while unquoted companies are often organized as closed corporations). Based on these observations we address the following two questions in chapter 3:

1. What is, in essence, the distinction between quoted and unquoted companies?
2. What is the implication of the lack of a quotation for the applicability of the value concept from modern financial economics?

We use the framework of the agency theory to explain the distinction between quoted and unquoted companies. The agency theory addresses, among other things, the classical problem of the separation of ownership and control. In our analysis the distinction

between ownership and control is further refined into three functions: management, control and residual claimant. The residual claimant may be a shareholder in a corporation, a partner in a partnership or the owner of a proprietorship. The separation of ownership and control, or more precisely: the specialization of the function of residual claimant, is the result of a trade-off between costs and benefits. Specialization of the function of residual claimant, which occurs in quoted companies, offers benefits that are related to quotation on an organized exchange. Quoted companies have unrestricted access to capital and their residual claimants can enjoy the benefits of unrestricted diversification and intertemporal allocation of consumption. However a quotation also results in costs: agency costs resulting from the separation of the functions of residual claimant, control and management. The choice regarding the separation of functions is essentially determined by a trade-off between the costs and benefits mentioned above. For large companies the benefits generally exceed the costs: they require large quantities of capital and the benefits of unrestricted diversification and intertemporal allocation of consumption for the residual claimants are large. Agency costs for large companies are relatively small, mainly because bonding- and monitoring efforts are subject to economies of scale. For small companies the costs generally exceed the benefits. These companies do not need much external capital and they are too small to warrant efficient monitoring and bonding of management.

The agency analysis provides a clear perspective on differences between quoted and unquoted companies. Differences in size, legal form and the relationship between shareholders are explained. The implications of the absence of a quotation for the applicability of the value concept from modern financial economics are explored by referring to the absence of functions of an ideal-world capital market. The diversification and the consumption patterns of residual claimants of unquoted companies are restricted. Considering these restrictions it may be concluded that - *ceteris paribus* - the residual claims of unquoted companies are worth less than those of quoted companies. Based on the above analysis we also critically discuss popular opinions on the discount for non-marketability and the value of control. Our analysis also draws attention to the fact that shareholders of unquoted corporations are often not only residual claimants, but they also perform management and control functions. Hence the value they attach to their shares exceeds the residual claim dimension, as is perhaps best exemplified in family owned businesses.

The analysis of unquoted companies is further extended to the relationship of shareholders in closed corporations. We make use of transaction cost economics to gain a deeper understanding of this relationship. The relationship between shareholders of closed corporations is quite different from the relationship of shareholders of quoted companies. While the latter are best described as anonymous residual claimants, shareholders in a closed corporation are often more deeply involved with each other because they are involved in management and control activities. Also, because of the nonmarketability of their shares, there is no easy way out in case of a conflict. Based on insights borrowed from transaction cost economics, various legal aspects of the relationship between shareholders in the closed corporation are explained. Special attention is paid to restrictions on the transfer of shares and the valuation of majority and minority interests.

Another major dimension on which unquoted shares differ from quoted shares is the lack of a market price that is equal to the present value of the expected future dividends. This touches on the concept of market efficiency. In financial economics, market

efficiency means that prices fully reflect available information. Voluminous empirical research has shown that organized stock exchanges are informationally efficient, although researchers do not agree on the exact degree of efficiency. The basic intuition of efficient markets is that individual traders have access to only a part of the available information. Traders process the information that is available to them and take positions in assets in response to their information as well as to their personal situations. The market price aggregates this diverse information and in that sense it reflects the available information. In the case of unquoted shares there is no market price which can be considered as an "informationally-rich" estimate of the present value. Instead the value has to be determined by individuals who are facing major information and estimation problems.

Chapter 4 focusses on estimation problems with respect to cash flows, earnings and discount rates. This attention is warranted because the experts in the case studies perceive the valuations they perform mainly in terms of information and estimation problems. We show that the outcome of DCF-calculations can be extremely sensitive to minor changes in assumptions with respect to cash flows and discount rates. We relate the degree of sensitivity to various company characteristics. We also summarize the results of voluminous empirical research on earnings-forecasts. Special attention is given to an explanation of the use of multiples (market comparables) like price/earnings and price/sales ratios in practice. By using multiples the value of an unquoted company is based on the market price of a quoted company. In our explanation the use of multiples can be conceived as a way to make use of informationally-rich market prices. Estimation problems with respect to cash flows and discount rates are circumvented. Expressed in the terminology of the DCF-model, using multiples implies that the valuation is based on high quality cash-flow forecasts as well as the "correct" estimate of the required return. Of course this conclusion only holds if the companies are fully comparable and the stock exchange on which the shares of the comparable company are traded is fully efficient. In practice markets are not fully efficient and companies are not fully comparable, so it would not be rational to base a valuation solely on market comparables.

The second part of the study contains six real-life, anonymized case-studies. The cases are described from the perspective of the experts who value companies in the face of a decision of their clients to buy or sell shares. The cases are descriptive and explanatory of nature, and focus on the value concepts and valuation methods used and on the role they play in the decision making process.

Chapter 5 contains three cases involving the valuation of shares for the purpose of an acquisition. Because the valuation extends over different stages of the acquisition process, we analyze the valuation concepts and methods within the context of this process. For instance, we pay attention to the informational advantage of the seller of a company over the buyer. This form of information asymmetry heavily influences the acquisition process, including the valuation. The major findings of the case studies are as follows. A variety of valuation methods is used, for instance the DCF-method, price/earnings-ratios and the earnings-yield method. The outcome of these methods forms the approximate range of values on the basis of which negotiations are entered into and in which the actual transaction price is expected to fall. From the perspective of financial economic theory it is remarkable that the DCF-method does not play the dominant role suggested in the literature. The experts explicitly refer to the estimation

problems of the DCF-method to explain the minor role the DCF-method plays in the decision making process. These problems are further aggravated by the informational disadvantage of the buyer and the doubts he may have regarding the reliability of the information provided by the seller. This problem of possible opportunistic behaviour is illustrated by the fact that buyers heavily rely on audited financial statements and other independent sources of information.

The interpretation of the various valuation methods is not a simple task because the methods are often used as rules of thumb. That is, the experts give no explicit explanations for the use of the various methods, other than by referring to customs and norms. In the light of these interpretation problems we considered various explanations. One possible explanation, which rests on the value concept of financial economics, is that the simultaneous use of multiple valuation techniques is an optimal attempt to estimate the present value. According to this explanation the outcome of each valuation method is an imperfect estimate of the present value. The DCF-method suffers from major estimation problems with respect to the cash flows and the discount rate. The application of multiples based on comparable companies has drawbacks because of limited comparability of companies. The use of the earnings-yield method may be incorrect because of a structural change in earnings. Using multiple, semi-independent valuation methods may result in an estimate of present value that is more accurate than the estimate based on a single method.

We have also considered explanations which are related to the explicit or implicit goals of a valuation. We learn from the cases that valuations are not done in a vacuum, but fulfil a specific function relating to the intended transaction. Some goals that the valuations fulfil are: to estimate the selling price of a company, to substantiate arguments to support negotiations, and to act as a vehicle in reaching agreement about the price between a seller and a buyer that are bound to each other. The recognition of these goals and circumstances helps in explaining the use of the various valuation methods, as well as the frequent reference to customs and norms. For instance if an expert is asked to estimate the selling price of a company, it is appropriate for him to use the methods that others (e.g. potential buyers) use. The goals and circumstances also explain why the DCF-method plays a limited role in the decision making process as compared to other methods. For instance price/earnings-ratios of comparable companies and the earnings yield leave less room for discussion and disagreement between parties than the DCF-method. This may be desirable if buyer and seller are bound to each other. Application of the DCF-method may lead to endless discussions about details of cash flow forecasts, while the discussion surrounding other methods is limited to only a few parameters. The other methods also have the highly desirable property of objectivity. Objective methods may be a better basis for justifying a valuation than the DCF-method. The inputs of other methods are less sensitive to subjective estimates than the DCF-method is. They are based on observable and verified information, like market prices and audited financial statements. These desirable functions of methods like price/earnings-ratios and the earnings yield method have been referred to as the communication function of these methods.

Chapter 6 contains three cases involving a situation where shares have to be valued in light of a restriction on the transferrability of those shares ("blokkeringsregeling"). A major distinction with the cases in chapter 5 is that the concepts of justice and fairness

play an important role in these valuations. The experts in these cases fulfil, amongst others, the function of mediator and arbitrator. We have explained the measures of fairness applied by the experts in the cases by referring to the goal of the "blokkeringsregeling" that was analyzed in chapter 3. In this respect we have also explored the concept of a "just price".

As was the case in chapter 5, the experts in the cases in chapter 6 use a variety of valuation methods. The value implied by these methods form the range within which the price is expected to fall. The DCF-method plays an even less dominant role than in the cases in chapter 5. This can partly be explained by the fact that the parties involved are bound to each other to a larger extent than in the case of acquisitions. Often the other shareholders of the company are the most obvious buyers. Because of this dependence, the valuation often gets a complementary goal: the advancement of a transfer of shares between the shareholders. Recognition of this goal helps us to understand the preference for objective methods that leave as little room as possible for discussion and disagreement. We have also found that in valuations in a legal context, objectivity is an important criterion for valuation methods.

Chapter 7 summarizes the findings of our study. The explanations brought forward in our empirical research are evaluated, in conjunction with the results of other empirical research on rules of thumb. The appendix to this dissertation contains a comprehensive overview and classification of valuation methods.